

Having described the invention, we claim:

1. A method of classifying an input pattern into an associated class, comprising:

extracting data pertaining to preselected features present within the input pattern;

determining, via a first classification technique, a discriminant value for each of a plurality of classes reflecting the relative likelihood that a class is the associated class;

selecting a class with the highest relative likelihood;

generating, via a second classification technique, a confidence value reflective of the a posteriori probability that the selected class is the associated class; and

rejecting the selected class if the determined confidence value is below a predetermined threshold value.

2. A method as set forth in claim 1 wherein the first classification technique uses a modified Bayesian

distance function to compute the discriminant values.

3. A method as set forth in claim 1 wherein the second classification technique is partitioned to calculate a confidence value only for a single class.

4. A method as set forth in claim 3, wherein the second classification technique uses a modified radial basis function to compute the confidence value.

5. A method as set forth in claim 1 wherein the input pattern is a scanned image.

6. A method as set forth in claim 5 wherein each of the plurality of output classes represent a variety of postage stamp.

7. A method as set forth in claim 5 wherein each of the plurality of output classes represent an alphanumeric character.

8. A method as set forth in claim 5 wherein the step of extracting the feature data includes dividing the image into regions and summing the grayscale values of the pixels within each region.

9. A method as set forth in claim 5 wherein the step of extracting the feature data includes defining a discrete number of grayscale ranges and determining the number of pixels within the image that fall within each range.

10. A method as set forth in claim 1 wherein the input pattern is an audio recording.

11. A computer program product operative in a data processing system for use in classifying an input pattern into an associated class, the computer program product comprising:

a feature extraction portion for extracting data pertaining to preselected features present within the input pattern;

a recognition portion for determining, via a

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first classification technique, a discriminant value for each of a plurality of classes reflecting the relative likelihood that a class is the associated class and for selecting a class with the highest relative probability; and

a rejection portion for generating, via a second classification technique, a confidence value reflective of the a posteriori probability that the selected class is the associated class and for rejecting the selected class if the determined confidence value is below a predetermined threshold value.

12. A computer program product as set forth in claim 11 wherein the recognition portion makes use of a Bayesian distance classifier to compute the discriminant values.

13. A computer program product as set forth in claim 11 wherein the second classification technique is partitioned to calculate a confidence value only for a single class.

14. A computer program product as set forth in claim 13 wherein the rejection portion uses a radial basis function to compute the confidence value.

15. A computer program product as set forth in claim 11 wherein the input pattern is a scanned image.

16. A computer program product as set forth in claim 15 wherein each of the plurality of output classes represent a variety of postage stamp.

17. A computer program product as set forth in claim 15 wherein each of the plurality of output classes represent an alphanumeric character.

18. A computer program product as set forth in claim 15 wherein the feature extraction portion divides the image into regions and sums the grayscale values of the pixels within each region.

